

Remarks

Claims 2-4, 7, 8, 10, 33-35, 42, 44, 46, 48, 51, and 56 have been amended. New claims 57- 63 have been added. Support for the amendment to claims 2-4, 7, 8, 10, 33-35, 42, 44, 46, 48, 51, and 56 can be found in general throughout Applicants' Specification and in particular, for example, at page 5, line 28. The amendments to the claims were made in an effort to correct clerical errors, to speed prosecution and not for reasons related to patentability. Applicants retain the right to prosecute the claims in their unamended form at a later date. Support for new claims 57-63 can be found in general throughout Applicants' Specification and in particular, for example, as follows: claims 57 and 61, page 10, lines 14-16, claim 58, page 4, lines 6-8, claims 59-60, page 5, lines 11-13, claim 62, page 7, lines 10-11, claims 63 and 64, page 8, line 11.

Claims 2-12, 33-36, 38-42, 44, and 46-56 stand finally rejected by the Board under 35 U.S.C. § 103 over EP 315,013 in view of Maletsky et al. further in view of Smith et al. and optionally further in view of Buell.

EP 315,013 discloses a method of making a diaper that includes coating a thermoplastic polymer material onto a web by means of a surface nozzle or an application roller.

Maletsky et al. disclose hot melt compositions. The one example composition disclosed by Maletsky et al. is a hot melt adhesive blend that includes hydrocarbon resin, amorphous polypropylene, antioxidant and crystalline polypropylene, and has a melt viscosity of 11,000 cps at 325°F (i.e., 162.8°C).

Smith et al. disclose a hot melt extrusion coating process that includes extruding a random copolymer of ethylene and acrylic acid at a temperature of about 105°C to about 250°C in the form of a thin film that is deposited on a substrate.

Buell et al. disclose a method of bonding a porous web to a substrate. The Buell et al. method includes applying a discontinuous hot melt adhesive to a porous fibrous web by direct contact extrusion.

Claim 10 is directed to a noncontact coating method. EP 315013 refers to applying a layer of ethylene vinyl acetate (EVA) copolymer, polyethylene, or amorphous thermoplastic polymer to a nonwoven. Many different EVA copolymers, amorphous thermoplastic polymers, and polyethylene polymers exist. All ethylene vinyl acetate

copolymers, polyethylene, and amorphous thermoplastic polymers do not inherently exhibit a complex viscosity of less than about 500 poise at about 1000 radians/seconds and a complex viscosity ranging from about 100 poise to about 1,000 poise at about 1 radian/second at a temperature less than about 160°C (see, e.g., Declaration of Sharf U. Ahmed, paras. 3 and 4, which is attached at Tab 1). Therefore, EP 315013 does not inherently teach a thermoplastic composition that has a complex viscosity of less than about 500 poise at about 1000 radians/seconds and a complex viscosity ranging from about 100 poise to about 1,000 poise at about 1 radian/second at a temperature less than about 160°C.

The Figures of EP '013 depict a process for making a diaper 10. A web having the width of the diaper is depicted in Figures 2 and 3 as being contact coated with a polymer composition. EP 315,013 does not teach a noncontact coating method, as required by claim 10. Instead, EP 315,013 discloses a contact coating method. This is demonstrated, e.g., by the fact that EP 315,013 discloses, "Figure 3 shows a modification of the device according to Fig 2, wherein the surface nozzle 44 is substituted by an application roll 50." (EP 315,013, page 9, lines 12-16). It is noteworthy that EP 315013 only discloses substituting the application roll 50 for the surface nozzle 44. EP 315013 does not teach or suggest that the apparatus had to be altered in any other way so as to modify the device of Fig. 2 to effect coating with an application roll. Since, it is undisputed that the application roll 50 cannot coat the non-woven 40 unless it is in contact with the non-woven, EP 315013 clearly teaches that the surface nozzle is also in contact with the nonwoven during the coating operation. Therefore, EP 0315,013 discloses a contact coating method.

That EP 315013 does not inherently disclose a noncontact coating method is further demonstrated by the Declaration of George Brown, which is attached at Tab 2. A contact coating apparatus similar to the one depicted in EP 315013, was modified such that the slot nozzle was not in contact with the moving web (see, *Id.*). The modified process did not inherently produce a continuous film (see, *Id.*). To the contrary, the modified apparatus produced a glob at the opening of the surface nozzle (see, *Id.*). The glob did not contact the moving web, did not adhere to the moving web, and did not form a continuous film on the moving web. Therefore, it is not the case that the slot nozzle of

EP 315013 is inherently positioned away from the web such that it is not in contact with the web.

It is undisputed that Maletsky et al. do not teach a noncontact coating method. The disclosure of Maletsky et al. is further deficient for at least the following additional reasons. Maletsky et al. list KRATON 1107 styrene-isoprene-styrene, STEREON styrene-butadiene-styrene, EPOLENE C-10 polyethylene, ELVAX ethylene vinyl acetate copolymer, and VESTOPLAST ethylene-butylene copolymer in their Table B. Maletsky et al. do not provide any additional detail about the nature of the polymers listed in Table B. There are numerous polymers sold under the VESTOPLAST series of trade designations (see VESTOPLAST product literature attached at Tab 3). Maletsky et al. do not teach which VESTOPLAST polymer they used. Therefore, it is not the case that the VESTOPLAST polymer disclosed in Maletsky et al. is inherently the same VESTOPLAST polymer disclosed in Applicants' Specification.

Maletsky et al. also teach away from the use of styrene-butadiene-styrene, styrene-isoprene-styrene, styrene-ethylene-butylene-styrene and ethylene vinyl acetate as moisture resistant barriers due to the relatively low bond strength of such polymers and their tack time of up to about five minutes (Maletsky et al., col. 1, lines 15-25). According to Maletsky et al., such polymers do not provide ideal moisture-proof barriers when coated on nonwoven substrates (*Id.*). Maletsky et al. also teach away from the use of low molecular weight polyethylene. According to Maletsky et al., "Such coatings have low flexibility and are crisp and irritating to the touch. Accordingly, they are not suitable for articles of apparel or articles worn next to the skin, such as for example disposable diapers." (*Id.* at lines 26-31). Therefore the skilled artisan would refrain from using the polyethylene and ethylene vinyl acetate polymers disclosed in Maletsky et al. in the coating method of EP 315013.

Maletsky et al. also disclose that a pinhole free coating could not be formed at a coating weight less than 2.5 mils (63.8 g/m^2) in the case of the EPOLENE C-10 polymer, 2 mils (50.8 g/m^2), in the case of the ELVAX polymer and less than 1.5 mils (38.1 g/m^2) in the case of the VESTOPLAST polymer. Thus, the skilled artisan would have no reasonable expectation that a continuous pin hole free coating could be achieved using the polyethylene, ethylene vinyl acetate and VESTOPLAST polymer disclosed by

Maletsky et al. in the method of EP 315013 at a coat weight less than 63.8 g/m^2 for the EPOLENE C-10 polymer, less than 50.8 g/m^2 for the ELVAX polymer, or less than 38.1 g/m^2 for the VESTOPLAST polymer.

Smith et al. do not cure the deficiencies of EP 315013 and Maletsky et al. Smith et al. disclose a slot nozzle that has a slot opening that is from 20 mils to 30 mils, which corresponds to 0.05 centimeters (cm) and 0.08 cm, respectively (Smith et al. col. 5, lines 36-37). Nothing in Smith et al. teaches or suggests that the non-contact slot nozzle coating method disclosed therein is suitable for forming a continuous film having the width of a diaper without contact between the substrate being coated and the slot nozzle. Smith et al. also do not teach or suggest that their slot nozzle, which has an opening of from 0.05 cm to 0.08 cm, is suitable for coating a diaper web in a diaper manufacturing process, such as the one disclosed in EP 315,013. Smith et al. further fail to teach or suggest that it was common practice to coat thermoplastic compositions on webs having the width depicted in the diaper manufacturing process of EP 315,013 using a noncontact coating method. Moreover, the skilled, artisan seeking to coat the web of the EP 315,013 diaper manufacturing process, would find the coating method of Smith et al., which employs a slot nozzle opening of from 0.05 cm and 0.08 cm, to have no relevance to a method of coating that seeks to coat a web having the width of a diaper, such as the web disclosed by EP '013, which is many orders of magnitude greater than 0.05 cm and 0.08 cm.

Smith et al. also fail to teach or suggest suspending a continuous film having the width required by the EP 315013 method from a coating device –let alone that a film of such a width could be suspended between a coating device and a substrate and remain continuous. Smith et al. further fail to teach or suggest that that such a film could form a bond to a substrate, as required by the EP 315013 method. Therefore, the skilled artisan would not look to Smith et al. and further would have no reasonable expectation that the process of Smith et al. could be used to successfully coat a continuous film the width of a web used in the manufacture of a diaper as disclosed in EP 315013.

The Board implicitly agreed that Buell has no relevance to the patentability of the method of claim 10.

Applicants submit, therefore, that the rejection of claims 2-12, 33-36, 38-42, 44, and 46-56 are patentable over EP 315,013 in view of Maletsky et al. further in view of Smith et al. and optionally further in view of Buell has been overcome and respectfully request that it be withdrawn.

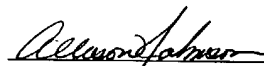
The rejection of claims 3-6, 8, 10-12, 33, 35, 36, 39-42, 44, and 46-48 under 35 U.S.C. § 103 over Sanftleben et al. in view of Boger et al. has been rendered moot in light of the amendment to claims 10, 33, 44 and 46.

The claims now pending in the application are in condition for allowance and such action is respectfully requested. Should the next action be other than allowance, Applicants respectfully request an interview.

Please charge any additional fees that may be required or credit any overpayment made to Deposit Account No. 06-2241.

Respectfully submitted,

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